Bruhath Bengaluru Mahanagara Palike

QUALITY ASSURANCE/QUALITY CONTROL REPORT

Office of the Chief Engineer (Quality Assurance/Control) Annexure-05,
BBMP Head Office, Hudson circle Bengalore-001,
Ph.no:08022975541, E-mail ID:qualitycontrol.bbmp@gmail.com

QUALITY ASSURANCE REPORT/QUALITY CONTROL REPORT

SE/QA/PR/128/2022-23, DATE: 5/5/23		
Name of Work	:	Package 02 - Consists of 5 works. "Improvements to Road and Drains at Hegdenagar Western side Balance Cross Roads in ward no 06" Byatarayanapura Sub Division. Estimated cost 1000.00 Lakhs
Job Code	:	007-23-000003
Bill No.	:	**3rd &Part Bill, Rs.1,95,94,000.00 (including GST)**
Name of Agency	:	**M/s Sri Venkateshwara Constructions, Prop. Sri Sambashiva**
Type of Test Performed	:	Rebound Hammer test as per IS13311-(2)-1992 & Bitumen Content and Gradation test as per Table 500.10 & Table 500.17 MoRTH V Revision.
Materials on which Tests Was Performed	:	1. CC Road (M30) 2. Pre Cast Cover Slab (M20) 3. RCC Drain Wall (M20) 4. Dense Bituminous Macadam (Grade II) 5. Bituminous Concrete (Grade II)
Officers present during inspection	:	1.Sri. Suresh Devathraj AE – Ward no 06 2.Sri. Kiran.B. EE-Quality Assurance
Project Management Consultants/Third Party	:	**Shiprama Consulting Engineers Pvt Ltd.**
Observations	:	➢ NDT (Rebound hammer test) and Bitumen Content and Gradation Test was conducted by Project Management Consultants at random locations in presence of AE (Ward no 6) along with EE of QA division . ➢ The Rebound Hammer Test was conducted randomly on RCC Drain wall (M20), Pre cast cover slab (M20), CC Road (M30) and also The Bitumen content & Gradation Test were conducted for DBM (Grade II) & BC (Grade-II). The readings and results are recorded by the PMC consultants. ➢ The readings of Rebound Hammer Test and Bitumen Content & Gradation Test results are tabulated and analysis of test results done by PMC is here by furnished. ➢ The location wise test results are reproduced in the tables shown below.
Test Locations	:	Location 1: 5th Cross Road New Shanthi Nagar (opp to #76 Irshaad) Location 2: 2nd Cross Road New Shanthi Nagar (opp to #18) Location 3: 1st Cross Road New Shanthi Nagar (Infront of AR Provision Store) Location 4: 7th Cross Road Shabari Nagar (opp to #323 Abhimaan home, opp to House no # 328) Location 5: 5th Cross Road Shabari Nagar (Corporator house west side, opp to # 309/310 Mahalasa krupa)) Location 6: Shabari Nagar Main road (infront of House No #198, Near Transfarmer H No #321, opp to #344) Location 7: Ex Service Main Road (Near Entrance, opp to H No #20 Masha Alla Mansion, opp to H No #49)

3/5/23
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

3/5/23
ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

05/05/23
ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Table-01: Rebound Hammer Test Results for Location-1

Sl. No.	Landmark	Member	Rebound Hammer Number	Average reading	Compressive Strength (N/mm2)	Impact Direction
Sample Tested Location at : 5th Cross Road New Shanthi Nagar						
1	opp to #76 Irshaad	Precast Cover Slab (M20)	26	24	20-22	Vertical down
2			24			
3			26			
4			24			
5			24			
6			26			
7			24			
8			22			
9			24			
1		CC Road (M30)	30	31.33	30-32	Vertical down
2			32			
3			30			
4			32			
5			32			
6			30			
7			30			
8			30			
9			34			

Table-02: Rebound Hammer Test Results for Location-2

Sl. No.	Landmark	Member	Rebound Hammer Number	Average reading	Compressive Strength (N/mm2)	Impact Direction
Sample Tested Location at : 2nd Cross Road New Shanthi Nagar						
1	opp to #18	Precast Cover Slab (M20)	26	24.44	20-22	Vertical down
2			24			
3			24			
4			22			
5			24			
6			26			
7			24			
8			24			
9			26			
1		CC Road (M30)	34	32	32-34	Vertical down
2			32			
3			30			
4			34			
5			32			
6			30			
7			32			
8			30			
9			34			

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
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ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
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ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ
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Table-03: Rebound Hammer Test Results for Location-3

Sl. No.	Landmark	Member	Rebound Hammer Number	Average reading	Compressive Strength (N/mm2)	Impact Direction
Sample Tested Location at : 1st Cross Road New Shanthi Nagar						
1	Infront of AR Provision Store	RCC Drain Wall (M20)	30	29	22-24	Horizontal
2			26			
3			28			
4			30			
5			28			
6			30			
7			28			
8			30			
9			28			

Table-04: Bitumen Content and gradation Test Results 7th Cross Road Shabari Nagar at random locations
BC- (GRADE-II)

Description	Trail 1	Trail 2
1.Initial weight of sample (gms) w1	556	528
2. final weight of sample after extraction (gms) w2	526	500
3. Initial weight of filter paper (gms) w3.	5	5
4. Final weight of filter paper (gms) w4	6	6
5. Increased weight of filter paper (gms) w5=(w4-w3)	1	1
6. Weight of Bitumen Extracted (gms). w6=w1-w2+w5	31	29
7. Bitumen content in % (w6/w1)x100	5.58	5.49
8.Average	5.53	

SIEVE SIZE mm	Trail 1				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0	100	100
13.2	0	0	0.00	100.00	90-100
9.5	76.23	76.23	14.49	85.51	70-88
4.75	89.90	166.13	31.58	68.42	53-71
2.36	101.82	267.95	50.94	49.06	42-58
1.18	20.51	288.46	54.84	45.16	34-48
0.6	74.25	362.71	68.96	31.04	26-38
0.3	58.64	421.35	80.10	19.90	18-28
0.15	35.34	456.69	86.82	13.18	12-20
0.075	29.63	486.32	92.46	7.54	4-10
SIEVE SIZE mm	Trail 2				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0	100	100
13.2	0	0	0.00	100.00	90-100
9.5	69.23	69.23	13.85	86.15	70-88
4.75	90.90	160.13	32.03	67.97	53-71
2.36	100.82	260.95	52.19	47.81	42-58
1.18	19.51	280.46	56.09	43.91	34-48
0.6	70.25	350.71	70.14	29.86	26-38
0.3	45.64	396.35	79.27	20.73	18-28
0.15	38.34	434.69	86.94	13.06	12-20
0.075	30.63	465.32	93.06	6.94	4-10

3/5/23

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ನಿರ್ಮಿತಿ ಕೇಂದ್ರ ಉಪ ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

3/5/23

ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

02/05/23

ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Table-05: Bitumen Content and gradation Test Results 5th Cross Road Shabari Nagar at random locations

BC- (GRADE-II)

Description	Trail 1	Trail 2
1.Initial weight of sample (gms) w1	530	525
2. final weight of sample after extraction (gms) w2	502	496.5
3. Initial weight of filter paper (gms) w3.	5	5
4. Final weight of filter paper (gms) w4	6	6
5. Increased weight of filter paper (gms) w5=(w4-w3)	1	1
6. Weight of Bitumen Extracted (gms). w6=w1-w2+w5	29	29.5
7. Bitumen content in % (w6/w1)x100	5.47	5.62
8.Average	5.54	

SIEVE SIZE mm	Trail 1				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0	100	100
13.2	0	0	0.00	100.00	90-100
9.5	68.33	68.33	13.61	86.39	70-88
4.75	91.92	160.25	31.92	68.08	53-71
2.36	101.85	262.1	52.21	47.79	42-58
1.18	18.52	280.62	55.90	44.10	34-48
0.6	71.22	351.84	70.09	29.91	26-38
0.3	45.65	397.49	79.18	20.82	18-28
0.15	38.20	435.69	86.79	13.21	12-20
0.075	31.63	467.32	93.09	6.91	4-10
SIEVE SIZE mm	Trail 2				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0	100	100
13.2	0	0	0.00	100.00	90-100
9.5	65.33	65.33	13.16	86.84	70-88
4.75	91.95	157.28	31.68	68.32	53-71
2.36	99.75	257.03	51.77	48.23	42-58
1.18	18.50	275.53	55.49	44.51	34-48
0.6	70.25	345.78	69.64	30.36	26-38
0.3	45.60	391.38	78.83	21.17	18-28
0.15	35.50	426.88	85.98	14.02	12-20
0.075	33.90	460.78	92.81	7.19	4-10

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
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ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Table-06: Bitumen Content and gradation Test Results Shabari Nagar Main road at random locations DBM- (GRADE-II)

Description	Trial 1	Trail 2	Trail 3
1.Initial weight of sample (gms) w1	620	613	628
2. final weight of sample after extraction (gms) w2	592	586	600
3. Initial weight of filter paper (gms) w3.	5	5	5
4. Final weight of filter paper (gms) w4	6	6	6
5. Increased weight of filter paper (gms) w5=(w4-w3)	1	1	1
6. Weight of Bitumen Extracted (gms). w6=w1-w2+w5	29	28	29
7. Bitumen content in % (w6/w1)x100	4.68	4.56	4.61
8.Average		4.62	

SIEVE SIZE mm	Trail 1				Requirement as per MORTH table 500.10
	Weight Retained, gm	Cumulative Weight Retained	Cumulative %Retained	Cumulative % Passing	
37.5	0	0	0	100	100
26.5	40.90	40.9	6.91	93.09	90 - 100
19	95.62	136.52	23.06	76.94	71 - 95
13.2	82.21	218.73	36.95	63.05	56 – 80
4.75	88.51	307.24	51.90	48.10	38 – 54
2.360	85.23	392.47	66.30	33.70	28 – 42
0.300	98.66	491.13	82.96	17.04	7 – 21
0.075	70.11	561.24	94.80	5.20	2 – 8

SIEVE SIZE mm	Trail 2				Requirement as per MORTH table 500.10
	Weight Retained, gm	Cumulative Weight Retained	Cumulative %Retained	Cumulative% Passing	
37.5	0	0	0	100	100
26.5	45.30	45.3	7.73	92.27	90 - 100
19	95.6	140.9	24.04	75.96	71 - 95
13.2	85.4	226.3	38.62	61.38	56 - 80
4.75	83.51	309.81	52.87	47.13	38 - 54
2.360	70.23	380.04	64.85	35.15	28 - 42
0.300	99.66	479.7	81.86	18.14	7 - 21
0.075	62.3	542	92.49	7.51	2 – 8

SIEVE SIZE mm	Trail 3				Requirement as per MORTH table 500.10
	Weight Retained, gm	Cumulative Weight Retained	Cumulative %Retained	Cumulative% Passing	
37.5	0	0	0	100	100
26.5	45.30	45.3	7.55	92.45	90 - 100
19	95.6	140.9	23.48	76.52	71 - 95
13.2	98.9	239.8	39.97	60.03	56 - 80
4.75	92.6	332.4	55.40	44.60	38 - 54
2.360	88.3	420.7	70.12	29.88	28 - 42
0.300	75.6	496.3	82.72	17.28	7 - 21
0.075	65.3	561.6	93.60	6.40	2 – 8

3/5/23
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ
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3/5/23
ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

03/05/23
ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Table-07: Bitumen Content and gradation Test Results Shabari Nagar Main road at random locations

BC- (GRADE-II)

Description	Trial 1	Trail 2	Trail 3
1.Initial weight of sample (gms) w1	496	484	465
2. final weight of sample after extraction (gms) w2	470	454	440
3. Initial weight of filter paper (gms) w3	5	5	5
4. Final weight of filter paper (gms) w4	6	6	6
5. Increased weight of filter paper (gms) w5=(w4-w3)	1	1	1
6. Weight of Bitumen Extracted (gms). w6=w1-w2+w5	27	27	26
7. Bitumen content in % (w6/w1)x100	5.44	5.58	5.59
8.Average	5.53		

SIEVE SIZE mm	Trail 1				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0	100	100
13.2	0	0	0.00	100.00	90-100
9.5	73.25	73.25	15.59	84.41	70-88
4.75	80.92	154.17	32.80	67.20	53-71
2.36	95.85	250.02	53.20	46.80	42-58
1.18	21.52	271.54	57.77	42.23	34-48
0.6	60.23	331.77	70.59	29.41	26-38
0.3	42.65	374.42	79.66	20.34	18-28
0.15	30.33	404.75	86.12	13.88	12-20
0.075	25.6	430.35	91.56	8.44	4-10

SIEVE SIZE mm	Trail 2				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0	100	100
13.2	0	0	0.00	100.00	90-100
9.5	60.29	60.29	13.16	86.84	70-88
4.75	81.30	141.59	30.91	69.09	53-71
2.36	80.8	222.39	48.56	51.44	42-58
1.18	52.3	274.69	59.98	40.02	34-48
0.6	50.1	324.79	70.91	29.09	26-38
0.3	45.2	369.99	80.78	19.22	18-28
0.15	31.3	401.29	87.62	12.38	12-20
0.075	28.8	430.09	93.91	6.09	4-10

SIEVE SIZE mm	Trail 3				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0	100	100
13.2	0	0	0.00	100.00	90-100
9.5	82.30	82.3	18.70	81.30	70-88
4.75	81.30	163.6	37.18	62.82	53-71
2.36	75.9	239.5	54.43	45.57	42-58
1.18	35.60	275.1	62.52	37.48	34-48
0.6	42.30	317.4	72.14	27.86	26-38
0.3	42.7	360.1	81.84	18.16	18-28
0.15	19.5	379.6	86.27	13.73	12-20
0.075	39.4	419	95.23	4.77	4-10

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ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು
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ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Table-08: Bitumen Content and gradation Test Results Ex Service Main Road at random locations
DBM- (GRADE-II)

Description	Trial 1	Trail 2	Trail 3
1.Initial weight of sample (gms) w1	613	617	638
2. final weight of sample after extraction (gms) w2	586	589.5	610
3. Initial weight of filter paper (gms) w3.	5	5	5
4. Final weight of filter paper (gms) w4	6	6	6
5. Increased weight of filter paper (gms) w5=(w4-w3)	1	1	1
6. Weight of Bitumen Extracted (gms). w6=w1-w2+w5	28	28.5	29
7. Bitumen content in % (w6/w1)x100	4.57	4.62	4.55
8.Average		4.58	

SIEVE SIZE mm	Trail 1				Requirement as per MORTH table 500.10
	Weight Retained, gm	Cumulative Weight Retained	Cumulative n%Retained	Cumulative % Passing	
37.5	0	0	0	100	100
26.5	52.30	52.3	8.92	91.08	90 - 100
19	98.90	151.2	25.80	74.20	71 - 95
13.2	88.4	239.6	40.89	59.11	56 – 80
4.75	78.6	318.2	54.30	45.70	38 – 54
2.360	82.9	401.1	68.45	31.55	28 – 42
0.300	98.6	499.7	85.27	14.73	7 – 21
0.075	56.2	555.9	94.86	5.14	2 – 8

SIEVE SIZE mm	Trail 2				Requirement as per MORTH table 500.10
	Weight Retained, gm	Cumulative Weight Retained	Cumulative %Retained	Cumulative% Passing	
37.5	0	0	0	100	100
26.5	39.80	39.8	6.75	93.25	90 - 100
19	94.52	134.32	22.79	77.21	71 - 95
13.2	81.11	215.43	36.54	63.46	56 - 80
4.75	87.21	302.64	51.34	48.66	38 - 54
2.360	86.33	388.97	65.98	34.02	28 - 42
0.300	97.46	486.43	82.52	17.48	7 - 21
0.075	69.25	555.68	94.26	5.74	2 – 8

SIEVE SIZE mm	Trail 3				Requirement as per MORTH table 500.10
	Weight Retained, gm	Cumulative Weight Retained	Cumulative %Retained	Cumulative% Passing	
37.5	0	0	0	100	100
26.5	41.90	41.9	6.87	93.13	90 - 100
19	99.01	140.91	23.10	76.90	71 - 95
13.2	85.21	226.12	37.07	62.93	56 - 80
4.75	89.51	315.63	51.74	48.26	38 - 54
2.360	86.23	401.86	65.88	34.12	28 - 42
0.300	96.66	498.52	81.72	18.28	7 - 21
0.075	71.32	569.84	93.42	6.58	2 – 8

3/5/23
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

3/5/23
ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
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ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ
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Table-09: Bitumen Content and gradation Test Results Ex Service Main Road at random locations

BC- (GRADE-II)

Description	Trial 1	Trail 2	Trail 3
1.Initial weight of sample (gms) w1	476	493	488
2. final weight of sample after extraction (gms) w2	451	466.5	462
3. Initial weight of filter paper (gms) w3	5	5	5
4. Final weight of filter paper (gms) w4	6	6	6
5. Increased weight of filter paper (gms) w5=(w4-w3)	1	1	1
6. Weight of Bitumen Extracted (gms). w6=w1-w2+w5	26	27.5	27
7. Bitumen content in % (w6/w1)x100	5.46	5.58	5.53
8.Average	5.52		

SIEVE SIZE mm	Trail 1				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0	100	100
13.2	0	0	0.00	100.00	90-100
9.5	85.30	85.3	18.91	81.09	70-88
4.75	94.20	179.5	39.80	60.20	53-71
2.36	67.8	247.3	54.83	45.17	42-58
1.18	36.2	283.5	62.86	37.14	34-48
0.6	46.30	329.8	73.13	26.87	26-38
0.3	35.6	365.4	81.02	18.98	18-28
0.15	30.30	395.7	87.74	12.26	12-20
0.075	28.9	424.6	94.15	5.85	4-10

SIEVE SIZE mm	Trail 2				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0	100	100
13.2	0	0	0.00	100.00	90-100
9.5	72.25	72.25	15.49	84.51	70-88
4.75	81.82	154.07	33.03	66.97	53-71
2.36	93.93	248	53.16	46.84	42-58
1.18	22.52	270.52	57.99	42.01	34-48
0.6	59.8	330.32	70.81	29.19	26-38
0.3	40.9	371.22	79.58	20.42	18-28
0.15	28.42	399.64	85.67	14.33	12-20
0.075	28.52	428.16	91.78	8.22	4-10

SIEVE SIZE mm	Trail 3				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0	100	100
13.2	0	0	0.00	100.00	90-100
9.5	74.30	74.3	16.08	83.92	70-88
4.75	81.95	156.25	33.82	66.18	53-71
2.36	90.80	247.05	53.47	46.53	42-58
1.18	35.5	282.55	61.16	38.84	34-48
0.6	53.6	336.15	72.76	27.24	26-38
0.3	41.70	377.85	81.79	18.21	18-28
0.15	25.7	403.55	87.35	12.65	12-20
0.075	30.3	433.85	93.91	6.09	4-10

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Conclusion:

The file containing **3rd & Part** bill has been submitted for the above work to QA department on **13.04.2023** requesting for spot inspection. Engineers of QA/QC division have visited the work spot on **22.04.2023.**

During the inspection, engineer in charge of work informed that items found in the bill, have been executed by the contractor & documents were made available for inspection.

PMC team was instructed to assess the strength of concrete used RCC Drain wall (M20), Precast cover slab (M20), CC Road (M30) by Rebound Hammer Test and also Gradation & Bitumen content test for DBM (Grade II) &BC (Grade-II) on Asphalted road . The Rebound hammer test and Bitumen Content and Gradation Tests were conducted by PMC in presence of engineer in charge of work.

From the test results furnished by PMC, it is concluded that the results of the samples collected are in accordance with the standards/ specifications mention in the IRC codes. However, the results submitted by the PMC have been reproduced here with for further needful action. The results checked by QA/QC relates only for item tested in the particular location randomly.

Further, QA/QC directs the Engineer in-charge of the work that all materials used for the work shall be inspected, tested and accepted as per the relevant specifications before incorporation in the work. The frequencies and methods of sampling and testing materials, including those required for definite purpose and not covered by MORT&H specifications shall be in accordance to the relevant IRC or BIS or AASHTO/ASTM/BS standards in order of priority.

All materials or work not conforming to the requirements of the specifications shall be considered unacceptable and rejected. The unacceptable materials or works that are rejected shall be immediately removed unless the defects are corrected and approved by the engineer in-charge of work.

The concerned Engineer in charge of the work shall follow the direction issued by Chief Commissioner Letter number dated 01.08.2022 and 14.09.2022 and take necessary action as appropriate in accordance with the law.

Note: -

This report by QA/QC is pertaining to the work carried out in **3rd & part bill** only. Therefore, further QA/QC reports shall be obtained for the items of work carried out in future Running Account bill / Final bill.

Safety precautions shall be taken at work spot to prevent any mishap, injuries or loss of life to general public and construction workers according to guidelines laid down in code of practices.

Engineer in charge of work shall obtain requisite approval and Implement traffic management plan prior to commencement of work.

Engineer in charge of work shall display details of work, work code, cost of project, start and completion date, and information of Engineer in charge of work with contact numbers at work spot.

Engineer in charge of work and Agency shall ensure that if any damages or defects occur pertaining to the executed work within the Defect Liability period (DLP), The same shall be rectified immediately on top priority without fail.

Engineer in charge of work shall ensure that any changes/ modification in the sanctioned estimate to be got approved by competent authority.

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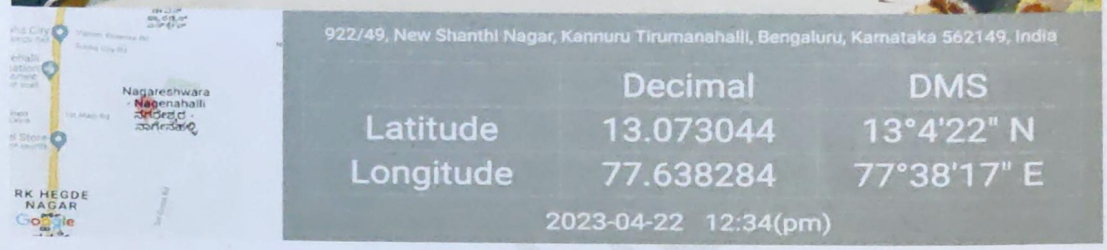
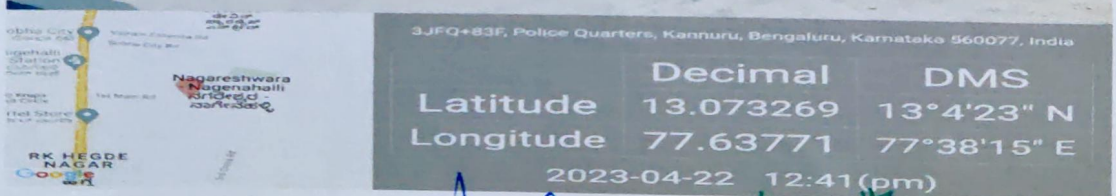
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Location 1: 5th Cross Road New Shanthi Nagar (opp to #76 Irshaad)



Location 2: 2nd Cross Road New Shanthi Nagar (opp to #18)



3/5/23 3/5/23

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Location 3: 1st Cross Road New Shanthi Nagar (Infront of AR Provision Store)

Location 4: 7th Cross Road Shabari Nagar (opp to #323 Abhimaan home, opp to House no # 328)

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Location 5: 5th Cross Road Shabari Nagar (Corporator house west side, opp to # 309/310 Mahalasa krupa)

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
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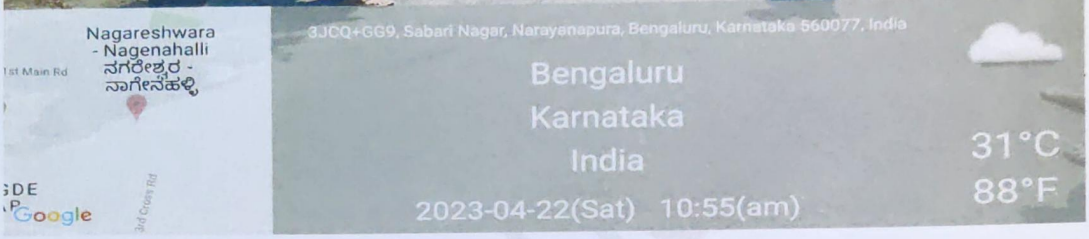
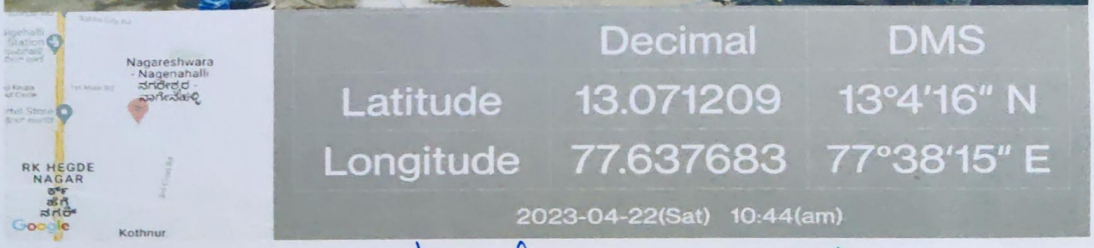
ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Location 6: Shabari Nagar Main road (infront of House No #198, Near Transfarmer H No #321, opp to #344)





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ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ
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3/5/23
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ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Location 7: Ex Service Main Road (Near Entrance, opp to H No #20 Masha Alla Mansion, opp to H No #49)

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
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3/5/23

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
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ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

3/5/23

ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ